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Registered Patent Attorneys

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Roland Dexter (Member TX, CT, NJ, MA Bars)
Joyce Morlin (Member FL, MI, IN, NY Bars)
Of Counsel:

Richard Klar (Member NY Bar)
John Oltman (Member FL, MI Bars)

Assistant Commissioner for Patents
Box PROVISIONAL APPLICATION
Patent and Trademark Office
Washington, D.C. 20231

RE: THE EXCHANGE.COM

Applicant: BIRITZ, et al.
Attorney Docket No. PC-930P

Honorable Assistant Commissioner:

Enclosed is an original U.S. Provisional Application for Patent Cover sheet, specification containing 47 pages, 17 pages of Informal Drawings, Verified Statement (Declaration) Claiming Small Entity Status, Power of Attorney for Provisional Application, Assignment and Recordation Cover Sheet, return post card and one check payable to the Assistant Commissioner for Patents in the amount of \$115.00.


Respectfully submitted,


Brian S. Steinberger

Registration No. 36,423

I certify that this correspondence, including the attachments listed, is being deposited with the United States Postal Service, Express Mail Post Office to Addressee service, Receipt No. EK144614226US, in an envelope addressed to Assistant Commissioner For Patents BOX PROVISIONAL APPLICATION, Washington, DC 20231, on the date shown below.

1/6/00
Date of Mailing


Signature of Person Mailing

BEST AVAILABLE COPY

EK144614226US

Atty. Docket No: PC-930P

APPLICANT OR PATENTEE: BIRITZ et al.

SERIAL OR PATENT NO:

FILED OR ISSUED:

FOR: THE EXCHANGE.COM

X FILED HERewith

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

POWER OF ATTORNEY FOR PROVISIONAL APPLICATION

Each inventor, identified above and signing below, hereby appoints the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith:

Brian S. Steinberger
Registration No. 36,423
101 Brevard Avenue
Cocoa, Florida 32922
(321) 633-5080
FAX: (321) 633-9322

(check the following item, if applicable)

☐ Each inventor, identified above and signing below, authorizes the above named attorney and/or agents to accept and follow instructions from his/her representatives.

Inventor(s)

Date: 1-4-2000

Date: 1-4-2000

Date: 1-4-2000

Signature

RONALD A. BIRITZ 3

~~ROBERT BAKER~~

LARRY FORTNA 2

Anne E. Robb 1

Ronald A. Biritz
Let M. R. R.
Larry Fortna

Blue Frog Software, Inc.

Wyoming Corp.
2015 Triple H Dr.

APPLICANT OR PATENTEE: BIRIT et al.

Atty. Docket N °C-930P

SERIAL OR PATENT NO:
FILED OR ISSUED:
FOR: THE EXCHANGE.COM

ASSIGNMENT

As a below named inventors of an invention or improvement entitled: THE EXCHANGE.COM the specification of which is filed herewith, and for which we have executed an application for Letters Patent of the United States of America on even date herewith; and

WHEREAS, THE EXCHANGE.COM, INC., a corporation organized and existing under the laws of the State of Wyoming, having its principal office and place of business in the City of Cheyenne, State of Wyoming, is desirous of obtaining the entire right, title and interest in, to and under the said invention and the said application in the United States of America and in any and all countries foreign thereto;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, we have sold, assigned, transferred, and set over, and by these presents do hereby sell, assign, transfer, and set over, unto said THE EXCHANGE.COM, INC., its successor, legal representatives, and assigns, my entire right, title, and interest in, to, and under the said invention, and the said application, and all divisional, renewal, substitution, and continuing applications, thereof, and all Letters Patent of the United States of America which may be granted thereon and all reissues and extensions thereof, and all applications for Letters Patent which may be filed for said invention, in any country or countries foreign to the United States of America, including all rights of priority, all rights to publish cautionary notices reserving ownership of said invention, all rights to register said invention, in appropriate registries, and all Letters Patent which may be granted for said invention in any country or countries foreign to the United States of America, and all extensions, renewals, and reissues thereof, and I hereby authorize and request the Commissioner of Patents and Trademarks of the United States of America, and any official of any country or countries foreign to the United States of America, whose duty it is to issue patents on applications as aforesaid, to issue all Letters Patent for said invention to said THE EXCHANGE.COM, INC., its successors, legal representatives, and assigns, in accordance with the terms of this instrument.

And I/we hereby further covenant and agree that I/we will communicate to said THE EXCHANGE.COM, INC., its successors, legal representatives, and assigns, any fact known to me respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisions, renewal, substitution, continuing, and reissue applications, make all rightful declarations and/or oaths and generally do everything possible to aid said THE EXCHANGE.COM, INC., its successors, legal representative, and assigns, to obtain and enforce proper patent protection for said invention in all countries. =

IN TESTIMONY WHEREOF, I/we authorize and affirm said assignments with the signatures set forth below on the indicated date(s).

Inventor(s)	Signature
Date: <u>1-4-2000</u>	RONALD A. BIRITZ
Date: <u>1-4-2000</u>	ROBERT BAKER
Date: <u>1-4-2000</u>	LARRY FORTNA

Ronald A Biritz
Robert Baker
Larry Fortna

Applicant or Parentee: BIRITZ.

Attorney Docket NO.: PC-930

For: THE EXCHANGE.COM

**VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY
STATUS (31 CFR 1.9(f) and 1e27(b))-SMALL BUSINESS CONCERN**

I HEREBY DECLARE THAT I AM
THE OWNER OF THE SMALL BUSINESS CONCERN IDENTIFIED BELOW;
X AN OFFICIAL OF THE SMALL BUSINESS CONCERN EMPOWERED TO
ACT ON BEHALF OF THE CONCERN IDENTIFIED BELOW

NAME OF CONCERN: THE EXCHANGE.COM, INC.

ADDRESS OF CONCERN: 1704 Westland Road, Cheyenne, Wyoming 82001

I hereby declare that the above identified small business concern qualifies as a small business concern as defined in 13 CFR 121.3-18, and reproduced in 37 CFR 1.9(d), for purposes of paying reduced fees under Section 41(a) and (b) of Title 35, United States code, in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. for purposes of this statement, (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time part-time or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third-party or parties controls or has the power to control both.

I hereby declare that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the invention, entitled the small business concern identified above with regard to the invention, entitled: THE EXCHANGE.COM by BIRITZ et al.

DESCRIBED IN
X THE SPECIFICATION FILED HERewith.

___ APPLICATION SERIAL NO. 0 / ___, FILED: ___
___ PATENT NO. ___, ISSUED ___

If the rights held by the above identified small business concern are not exclusive, each individual, concern or organization having rights in the invention is listed below* and no rights to the invention are held by any person, other than the inventor, who would not qualify as an independent inventor under 37 CFR 1.9(c) if that person made the invention, or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

NAME: _____

ADDRESS: _____

___ INDIVIDUAL ___ SMALL BUSINESS CONCERN ___ NONPROFIT ORGANIZATION

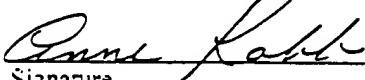
I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37CFR 1.28(b)).

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME OF PERSON SIGNING: ANN E. ROBB

TITLE OF PERSON OTHER THAN OWNER: SECRETARY/TREASURER

ADDRESS OF PERSON SIGNING: P.O. Box 181954, CASSELBERRY, FLORIDA 32707


Signature

Date: 1/4/2000

FORM PTO-1595 **RECORDATION FORM COVER SHEET** US Depart. Of Commerce**PATENTS ONLY**

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

1. NAME OF CONVEYING PARTY(IES):

2. NAME AND ADDRESS OF RECEIVING PARTY(IES).

Ronald A. Birtz
Robert Baker
Larry FortnaThe Exchange.com, Inc.
1704 Westland Road
Cheyenne, Wyoming 82001Additional name(s) of conveying party(ies)
attached? ☐ Yes ☒ NoAdditional name(s) and address(es)
attached? ☐ Yes ☒ No

3. NATURE OF CONVEYANCE:

☒

ASSIGNMENT

☐

SECURITY AGREEMENT

☐

MERGER

☐

CHANGE OF NAME

☐

OTHER _____

EXECUTION DATE: January 4, 20004. IF THIS DOCUMENT IS BEING FILED TOGETHER WITH A NEW APPLICATION, THE EXECUTION DATE OF
THE APPLICATION IS: 1-4-00

A. Patent Application No.(s):

B. Patent No.(s)

60/ _____ Filed _____

Additional numbers attached? ☐ Yes ☒ No5. Name and address of party to whom
correspondence concerning document
should be mailed:6. Total number of applications and patents
involved: one

7. Total Fee (37 CFR 3.41) \$40.00

Brian S. Steinberger, Esq.

101 Brevard Avenue
Cocoa, FL 32922☒ Enclosed☐ Authorized to be charged to account

8. Account No. _____

9. STATEMENT AND SIGNATURE: To the best of my knowledge and belief, the foregoing information is true and correct and
any attached copy is a true copy of the original document.BRIAN S. STEINBERGER
(Name of Person Signing)
Signature1/6/00
DateTotal number of pages including cover sheet, attachments, and document: two



POST OFFICE TO ADDRESSEE

EK144614226US

ORIGIN (POSTAL USE ONLY)

PO ZIP Code	Day of Delivery Next Second	Flat Rate Envelope
Date In Mo. Day Year	12 Noon 3 PM	Postage S
Time In AM PM	Military 2nd Day 3rd Day	Return Receipt Fee
Weight lbs. ozs.	Int'l Alpha Country Code	COD Fee Insurance Fee
to Delivery Weekend Holiday	Acceptance Clerk Initials	Total Postage & Fees S

DELIVERY (POSTAL USE ONLY)

Delivery Attempt	Time	Employee Signature
Mo. Day	AM PM	
Delivery Attempt	Time	Employee Signature
Mo. Day	AM PM	
Delivery Date	Time	Employee Signature
Mo. Day	AM PM	
Signature of Addressee or Agent		
X		
Name - Please Print		
X		

CUSTOMER USE ONLY

METHOD OF PAYMENT: Business Mail Corporate Acct. No. General Agency Acct. No. or Postal Service Acct. No.	<input type="checkbox"/> WAIVER OF SIGNATURE (Domestic Only) Additional merchandise insurance is void if waiver of signature is requested. I wish delivery to be made without obtaining signature of addressee or addressee's agent (if delivery employee judges that article can be left in secure location) and I authorize that delivery employee's signature constitutes valid proof of delivery. <input type="checkbox"/> NO DELIVERY Weekend Holiday Customer Signature
--	---

FROM: (PLEASE PRINT)

PHONE ()

Law Offices of Brian S.
Steinberger
101 Brevard Avenue
Cocoa, Florida 32922

TO: (PLEASE PRINT)

PHONE ()

Asst. Commissioner for
Patents
BOX PROVISIONAL APPLICATIONS
Washington, D. C. 20231

PC-930D

EXPRESS HARD.

You are making 3 copies.

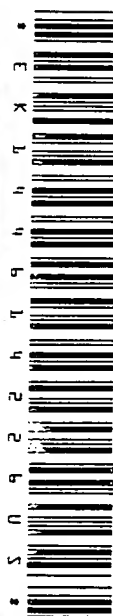
FOR PICKUP OR TRACKING CALL 1-800-222-1811

www.usps.gov



Label 11-B July 1997

Mailing Label



LAW OFFICES OF BRIAN S. STEINBERGER 12-96
101 BREVARD AVENUE
COCOA, FL 32922

BANK OF AMERICA
NATIONAL ASSOCIATION
GREEN COVE SPRINGS, FL 32043-8988
63-4/630

3224

1/6/2000

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Order of

ASST. COMM FOR PATENTS

\$ **115.00

One Hundred Fifteen and 00/100*****

ASST. COMM FOR PATENTS



BRIAN S. STEINBERGER

EXCHANGE PC-930P FILING FEE

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⑈003224⑈ ⑆063000047⑆002834151124⑈

Provisional Patent Application
Application: THE EXCHANGE.COM
Inventors: BIRITZ, et al.
Attorney Docket No.: PC-930P

Received in the U.S. Patent and Trademark Office on the date stamped below:

Provisional Application Form, Patent Cover Sheet, Small Entity Status. Power of Attorney, 17 drawings, specification, return post card, Verified Statement claiming Small Entity Status, Assignment, Recordation Cover Sheet and check in the amount of \$115.00.

Applicant or Patentee: BIRITZ, et al.

Atty. Docket No.: PC-930P

For: THE EXCHANGE.COM

Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
PROVISIONAL APPLICATION FOR PATENT COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53(b)(2).

Type a plus sign (+)

Docket Number: PC-930P

Inside this box -> [+]

INVENTOR(S)/APPLICANT(S)

LAST NAME	FIRST NAME	MIDDLE INITIAL	RESIDENCE (CITY AND EITHER STATE OR FOREIGN COUNTRY)
BIRITZ	RONALD	A..	Casselberry, Florida
BAKER	ROBERT		Maitland, Florida
FORTNA,	LARRY		Leesburg, Florida

TITLE OF THE INVENTION (280 characters max)

THE EXCHANGE.COM

CORRESPONDENCE ADDRESS

Brian S. Steinberger
101 Brevard Avenue
Cocoa
State FLORIDA

Zip Code 32922

Country USA

ENCLOSED APPLICATION PARTS (check all that apply)

☒ Specification

Number of Pages 4

☒ Small Entity Statement

☒ Drawing(s)

Number of Sheets 17

☒ Other (specify) return post card, Assignment
and Recordation Cover Sheet, Declaration 1/400

METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT (check one)

☒ A check or money order is enclosed to cover the filing fees. FILING FEE AMOUNT \$115.00

The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.

☒ NO

☐

Yes, the name of the U.S. Government agency and the Government contract number are: _____

Respectfully submitted,

SIGNATURE: [Signature]

DATE: January 6, 2000

TYPED OR PRINTED NAME: BRIAN S. STEINBERGER

REGISTRATION NO. 36.423

☐ Additional inventors are being named on separately numbered sheets attached hereto.

Description for Patent Application - TheExchange.com

TheExchange.Com's online classified advertising service concentrates on customer needs in both perishable and non perishable goods, items and services worldwide. We provide the most efficient and user friendly interface on the Internet. Our service focuses on both the buyers and sellers, professional dealers and individuals.

For the buyers, locating the product, item and service is lightning fast, intuitive, and requires very minimal keyboard input. For the sellers, we offer advertising submissions online, as well as over the telephone. Advertisers can edit or re-create ads from existing or archived ads that we retain in a private location on the website. All user data is password protected. We also offer buyers and sellers the information required to have their goods inspected, shipped and delivered worldwide.

The user can find a specific product, part, or service by using their mouse to click on selections in a series of menus that list everything organized by category, subcategory, type, subtype, make and model. See figure 1 below. The site's elegance is in its simplicity. Our unique classification of goods and services is based on over 20 years in the import/export, manufacturing and service sectors.

Categories include the following:

Aircraft
Agricultural
Autos
Boats

Heavy Equipment
Heavy Trucks
Pickup Trucks
SUVs and Vans

Subcategories for each of the categories are

Makes
Items
Services

From this point on, the user enters menus of category/subcategory specific types and subtypes. The last two menus of the taxonomy are defined as make and model. It is important to note that types and subtypes menus are optional within the category, and are used only when the extra classifications are necessary. This allows the user to reach the list of desired ads as efficiently as possible, without compromising our structural integrity. Our custom software algorithms are the key to this fantastic approach.

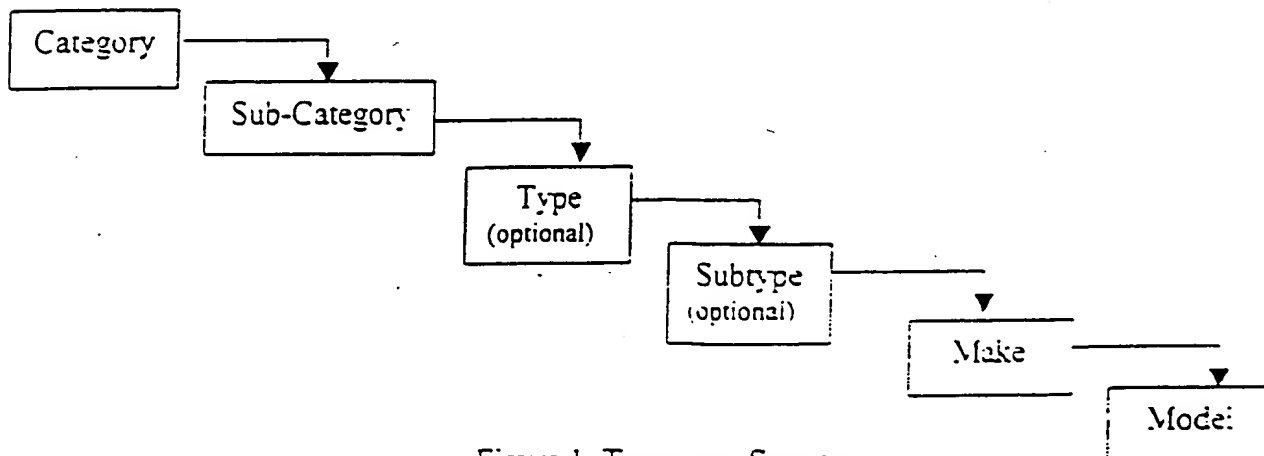


Figure 1. Taxonomy Structure

Once the user has chosen a make & model, the site lists all the relevant ads, displaying the year, make, model, and price for every ad. To view the description of the ad, the user clicks on the "Details" text next to the ad. No typing is necessary to view any ads, and the sequence of menus limits the list of ads to the specific type the user is looking for.

The user who wants to submit an ad is led through the same series of menus so that their ad is classified according to the existing menu structure. If the advertiser would like to list their ad under a type or subtype classification that isn't present in the existing menus, they can contact theExchange.com via e-mail or telephone and theExchange.com will add that type or subtype classification to their menus. If the make or model isn't present in the menus, the user can add them interactively during the ad submission process. Thus makes & models are data driven and become more comprehensive through user interaction. Types and subtypes are controlled and updated by theExchange.com to prevent unstructured and unmanageable growth of the menu's hierarchy.

The web site prides itself in being the fastest of its type on the Internet by avoiding graphics, which are time-consuming to download. The only graphic is the company logo displayed in the upper left side of the web pages, and it is downloaded only once, when the web site is accessed for the first time. Appealing banner ads, targeted to the specific location in the taxonomy, pertaining to the specific product, goods or services the customer is seeking, are the only clutter on the screen as the user progresses in his search.

While viewing the list of specific ads, the buyer can switch to one of the other two subcategories (Makes/Items/Services) within the selected category. At any point in time the user can summon a standard text search or a geographical search. In most cases, within three or four "clicks," the buyer has reached the appropriate list of ads resulting from our patent pending software and unparalleled search process.

The strengths of TheExchange.com Web site

Differentiator

1. Faster to download than any other competitor (less graphics: more meat and potatoes).
2. Highly structured fluidity of taxonomy
3. Target-marketing banner ads (banner ads are placed in a class and category relating to that product)
4. Standardization of hot links (clickable items) differentiate the user from viewing ads to submit an ad via color i.e. view ad black to red, submit ad blue to black
5. The user goes through the same steps for ad submission and ad viewing to take them exactly where they want to be
6. Allows user to choose makes, items, or services relating to the category that the user is interested in due to the highly structured fluidity of taxonomy-based menu.
7. Text only information transfer is conducive to hand held web browsing tools such as wireless telephones and Palm Pilots
8. Extremely simple and user-friendly (minimal clicks and no typing)
9. Structure allows addition of new categories without modifications to controlling software or without changing the view presented to the user
10. Scrollable ad list with new ads submitted within last 24 hours highlighted in color
11. As the user clicks through the menu sequence, the selection path is displayed above the menu
12. The user can click on any part of the selection path to return to a specific menu
13. The prospective buyer, while being educated in the specific product area, is lead through the logical thought progression used by experts in the field of procurement.
14. Consistency in all areas of the menu structure
15. Paging and e-mail capabilities to allow the user (for additional fee) the ability to be paged or e-mailed immediately upon ad placement of user-selected criteria, i.e. make, model, year, price range, location or service.
16. No dropdown boxes during regular menu traversing
17. Top of our site always remains the same (Logo, home, login, logout, submit an ad, About us...) for easy navigation while the user clicks through all steps to view ads or submit ads or view any other pages
18. Up front link to the advertising rates on the home page
19. Ad submission form contains option to easily upload up to 3 photos per ad
20. Allows the user to easily return to the home page from any page they are on
21. User-friendly one-time registration
22. Advanced search by 3 zip codes, area codes, state, country, year, and price
23. User-friendly one-time registration (we are also investigating using the Passport internet-wide profile service) and login/logout.

Other Applications

The capability to page a consumer immediately upon the placement of an ad via palm pilot or conventional pager, etc., giving them the edge over other consumers to be the first notified, at an additional cost. The ability to do virtual online auctions real time, i.e. as in walking down the auction line with the auctioneer, at an additional cost to the consumer. Transmitting video back, allowing people to bid real time for that particular item being auctioned, aircraft, truck, boat, etc. Allowing people to import export, linking consumer directly with shippers, customs house brokers, trucking, interstate, intrastate and overseas, called freighthaulers.com, Inc., a separate company and a subsidiary of theExchange.com, Inc. Prebuyinspections.com, Inc. is a separate company, designed to reduce fraud and to the best of our ability through in-the-field personnel ensure that the consumer gets exactly what he's paying for in terms of value, a subsidiary of theExchange.com, which will be responsible for inspecting goods prior to purchase at a cost to the consumer. Freighthaulers.com, Inc. and Prebuyinspections.com, Inc. will be hot-linked to theExchange.com, Inc. for consumer convenience.

The software that theExchange.com, Inc. has developed is not only for e-commerce but also business-to-business, or wholesale-to-wholesale. Our software also allows us the flexibility to add or delete a category with the manipulation of the EDSM by the technical staff remotely instead of the engineering staff, for instance if economic times warrant the substitution of the complete boats category and replace it with antique furniture, or to add new categories. Another example would be snowmobiles. This category could be run from November to March, which is the season in the United States. Our software also allows us the flexibility to change any data in the EDSM remotely by technical staff instead of engineering staff.

The same software will be utilized for Prebuyinspections.com, Inc. and Freighthaulers.com, Inc., meaning the EDSM will be changed from its present form to accommodate destinations, types of truck needed, states, countries for freight haulers and type of inspection needed for different items for prebuy inspections, making it familiar to the consumer that is using theExchange.com.

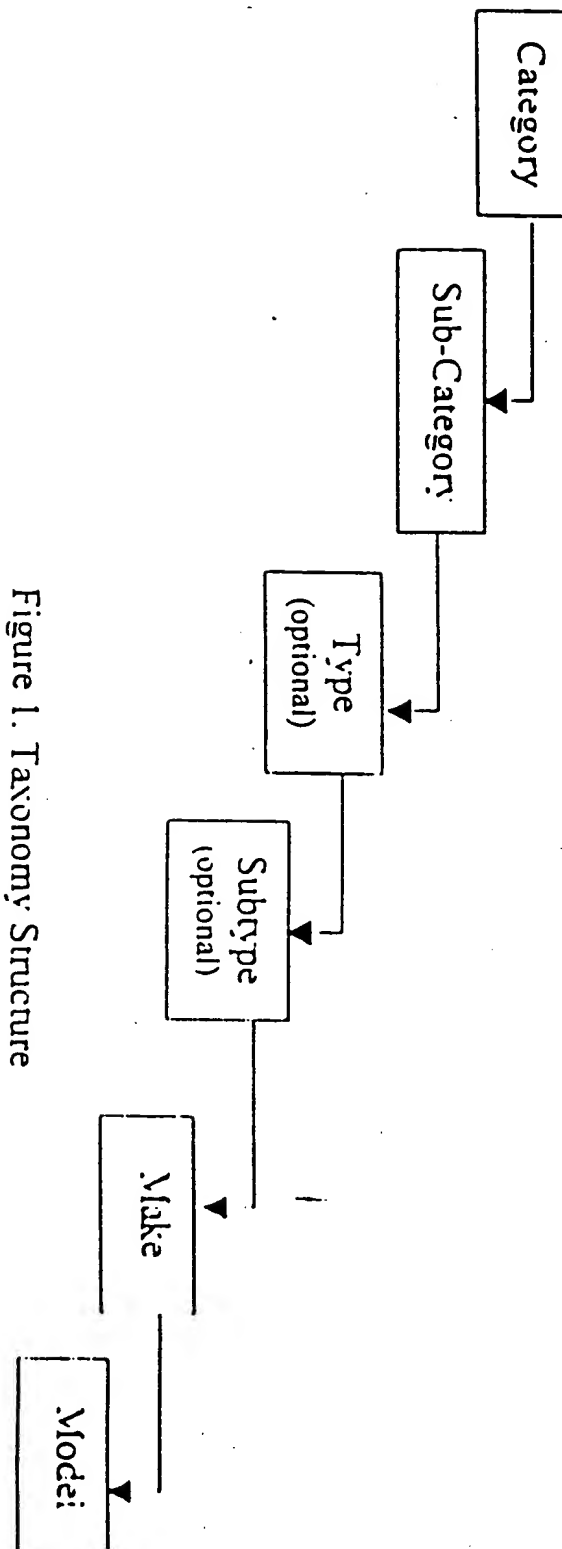


Figure 1. Taxonomy Structure

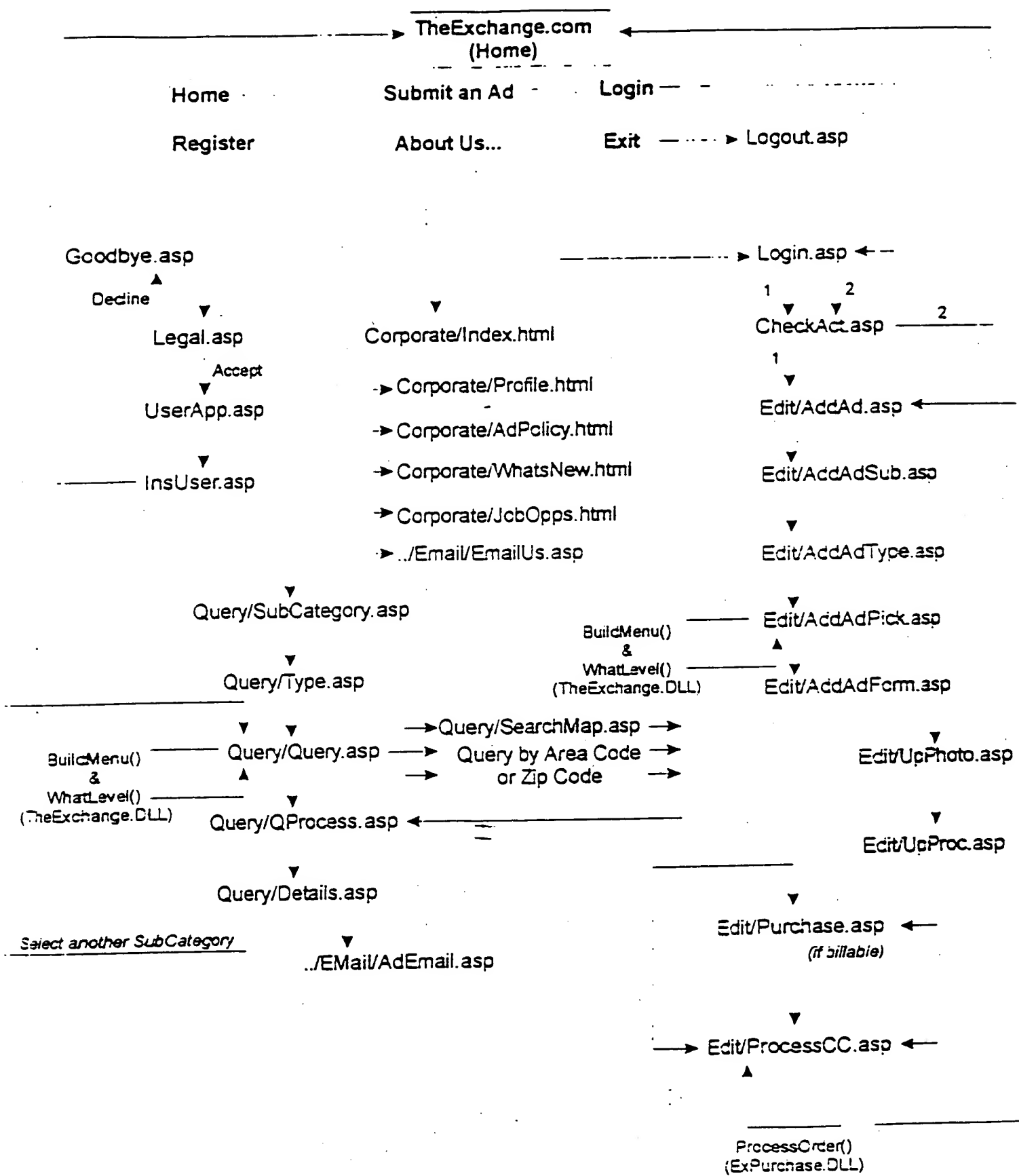


Fig. 2

At TheExchange.com, we try to keep things simple. In keeping with that philosophy, here is our basic policy about advertisements that you place here.

1. We ask that you keep it clean!
2. We ask that you keep your wording specific and complimentary to the specific information that we ask you to enter about your ad.

Current price list (subject to change without notice)

Makes			
Low Asking Price	High Asking Price	Period	Ad Price
\$0.00	\$50,000.00	21 Days	\$5.00
\$50,001.00	\$100,000.00	21 Days	\$10.00
\$101,001.00	\$250,000.00	21 Days	\$15.00
\$250,001.00	\$1,000,000.00	21 Days	\$20.00
Items			
Low Asking Price	High Asking Price	Period	Ad Price
\$0.00	\$50,000.00	21 Days	\$5.00
\$50,001.00	\$100,000.00	21 Days	\$10.00
\$100,001.00	\$250,000.00	21 Days	\$15.00
\$250,001.00	\$1,000,000.00	21 Days	\$20.00
Services			
Low Asking Price	High Asking Price	Period	Ad Price
\$0.00	\$1,000,000.00	21 Days	\$20.00
Notes:	1. For addition of 1-3 photos to any ad, you will be charged \$5.00 per photo file uploaded.		
	2. If you choose to hide the asking price for your advertisement, you will be charged the maximum price for that type of ad (i.e., Makes, Items, or Services).		
	3. You can edit your ad by clicking on the link in the (optional) confirming email sent with each ad submission, or by logging in from our home page, and clicking on <i>Change an Ad</i> .		
	4. You can renew an expired ad for an additional period by logging in from our home page and clicking on <i>Renew an Ad</i> .		
	5. Expired Ads will be held online in an expired state for 90 days from expiration date. After this period has expired, they will be archived.		
	6. Discounts are available for volume purchasers. Please contact us for details.		

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Given the need to display unlike and non-sequential items which are contained in a database, an algorithm was designed that creates a Control ID that identifies the order in which the unlike items should be displayed.

The control ID is a binary number representing all possible combinations of empty fields in a given recordset.

By storing the control ID in a taxonomy table, it is possible to differentiate the ordering of unlike goods.

ITEM	TYPE	SUB-TYPE	ELEMENT	CONTROL ID
ITEM - 1				0
ITEM - 2			Element-1	1
ITEM - 3		Sub-Type 1		2
ITEM - 4		Sub-Type 2	Element-2	3
ITEM - 5	Type-1			4
ITEM - 6	Type-2		Element-3	5
ITEM - 7	Type-3	Sub-Type 3		6
ITEM - 8	Type-4	Sub-Type 4	Element-4	7

Given the control ID, one can then determine exactly which fields contain data and which fields will be NULL.

This allows a grouping to be built that is displayed in a finite order from the unlike selections.


Thus, the progression from item 1 to item 8 can be calculated in advance allowing the empty fields to be transparent to the end user.

Applying this principle to a database generated web page that needs to hyperlink from each item through any existing variants to its end up at a final destination that describes the item, one would see the data represented as follows, where → is a hyperlink to the next sub item:

ITEM-1 → Description of Item 1
ITEM-2 → Element 1 → Description of Item 2
ITEM-3 → Sub-Type 1 → Description of Item 3
ITEM-4 → Sub-Type 2 → Element 2 → Description of Item 4
ITEM-5 → Type-1 → Description of Item 5
ITEM-6 → Type-2 → Element 3 → Description of Item 6
ITEM-7 → Type-3 → Sub-Type 3 → Description of Item 7
ITEM-8 → Type-4 → Sub-Type 4 → Element 4 → Description of Item 8

Fig.4

Please Login	
New User?	Username: <input type="text"/>
	Password: <input type="password"/>
	<input type="checkbox"/> Save Login Information.
<input type="button" value="OK"/>	<input type="button" value="Clear"/>



NOTE: If you already have an account, please use that login name and password. If you don't have an account, simply press the *New User?* button above to apply for one online. Once you have filled in the form, you may submit an advertisement to TheExchange.com immediately.

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Fig. 5

**Submit an Ad: Pick from
Categories:**

Our Vision is International - Our Focus is Individual

- **Agricultural**
- **Aircraft**
- **Autos**
- **Boats**
- **Heavy Equipment**
- **Heavy Trucks**
- **Pickup Trucks**
- **SUVs & Vans**

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Fig. 7

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- **Grape Harvesters**
- **Harvesters**
- **Harvesters Tomato**
- **Hay Balers**
- **Hay Haulers**
- **Hay Stackers**
- **Hay Swathers**
- **Loaders**
- **Log Skidders**
- **Manure Spreaders**
- **Orchard Harvesters**
- **Pickers Tomato**
- **Power Units**
- **Seeders**
- **Snow Blowers**
- **Speed Rowers**
- **Sprayers**
- **Swathers**
- **Tractors**
- **Tractors, Bucket**
- **Tractors, No Bucket**
- **Tree Shakers**
- **Windrowers**

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- ◆ **Chris Craft**
- ◆ **Egg Harbor**
- ◆ **Hatteras**
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- ◆ **Luhrs**
- ◆ **Ocean**
- ◆ **Pacemaker**
- ◆ **Post**
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Fig. 9

Presenting a contiguous in-context dynamic menu of lower level classified selections within specific object domains at higher and higher levels of specificity from a sparse matrix.

A means of providing a structure to store categorization pathways for all possible items in the products, components and services domains was required. In these domains, and within each major category, there are subject matter related differences in the way each level of a path through each tree branch is identified by domain experts. This results in a mixture of unlike items at the same level of detail in the categorization, and causes the actual data matrix to remain sparse. This problem is analogous to a taxonomy of mammals, birds, and fish, in which the genus, species, subspecies, and additional levels of detail are called different names by the experts in each classification, and for which there may or may not be an identifier at a given subordinate level. This structure is required in order to provide a guided menu of user selections through each domain categorization tree, and prevent the introduction of erroneous content into the structure via user data entry.

Given the need to display unlike and non-sequential items which are contained in this taxonomic database of real-world product, component and service categorizations, an algorithm was designed that creates a ControlID for each unique categorization path. The Control ID is an integer that identifies all possible combinations of empty columns in a row of categorization data. In this application, it allows the determination of where columns representing subordinate levels are empty, and whether there is additional detail in a lower subordinate level. This allows a hierarchical menu to be constructed in real-time from any starting point.

ID	CATEGORY	SUBCATEGORY	TYPE	SUBTYPE	ELEMENT	ELEMENTNAME	CONTROLID
1	Category-1	SubCategory-1	Type-1				1
2	Category-1	SubCategory-1	Type-1	SubType-1			2
3	Category-1	SubCategory-1	Type-1	SubType-2			2
4	Category-1	SubCategory-1	Type-2		Element-1		3
5	Category-1	SubCategory-1	Type-3			ElementName-1	4*
6	Category-1	SubCategory-1	Type-4		Element-2	ElementName-2	5
7	Category-1	SubCategory-1	Type-4		Element-2	ElementName-3	5
8	Category-1	SubCategory-1	Type-4		Element-2	ElementName-4	5
9	Category-1	SubCategory-1	Type-4		Element-3		6
10	Category-1	SubCategory-2	Type-5	SubType-3	Element-4		6
11	Category-1	SubCategory-2	Type-5	SubType-4		ElementName-5	7*
12	Category-1	SubCategory-2	Type-5	SubType-5	Element-5	ElementName-6	8
13	Category-2	SubCategory-3	Type-6	SubType-6			2
14	Category-2	SubCategory-3	Type-6	SubType-6			2
...

*Rare

Several examples are provided for illustration on the following page.

Example 1: Menu View after application of Control ID to selection starting with Item 2 and working through Type-1

ID	PAGE 1	PAGE 2	PAGE 3	CONTROLID
6	SubType-1			2
7	SubType-2			2

Example 2: Menu View after application of Control ID to selection starting with Item 6 and working through Type-4

ID	PAGE 1	PAGE 2	PAGE 3	CONTROLID
6	Element-2	ElementName-2		5
7	Element-2	ElementName-3		5
8	Element-2	ElementName-4		5
9	Element-3			5

Fig. 10

The Control ID algorithm is expressed by the following flow chart

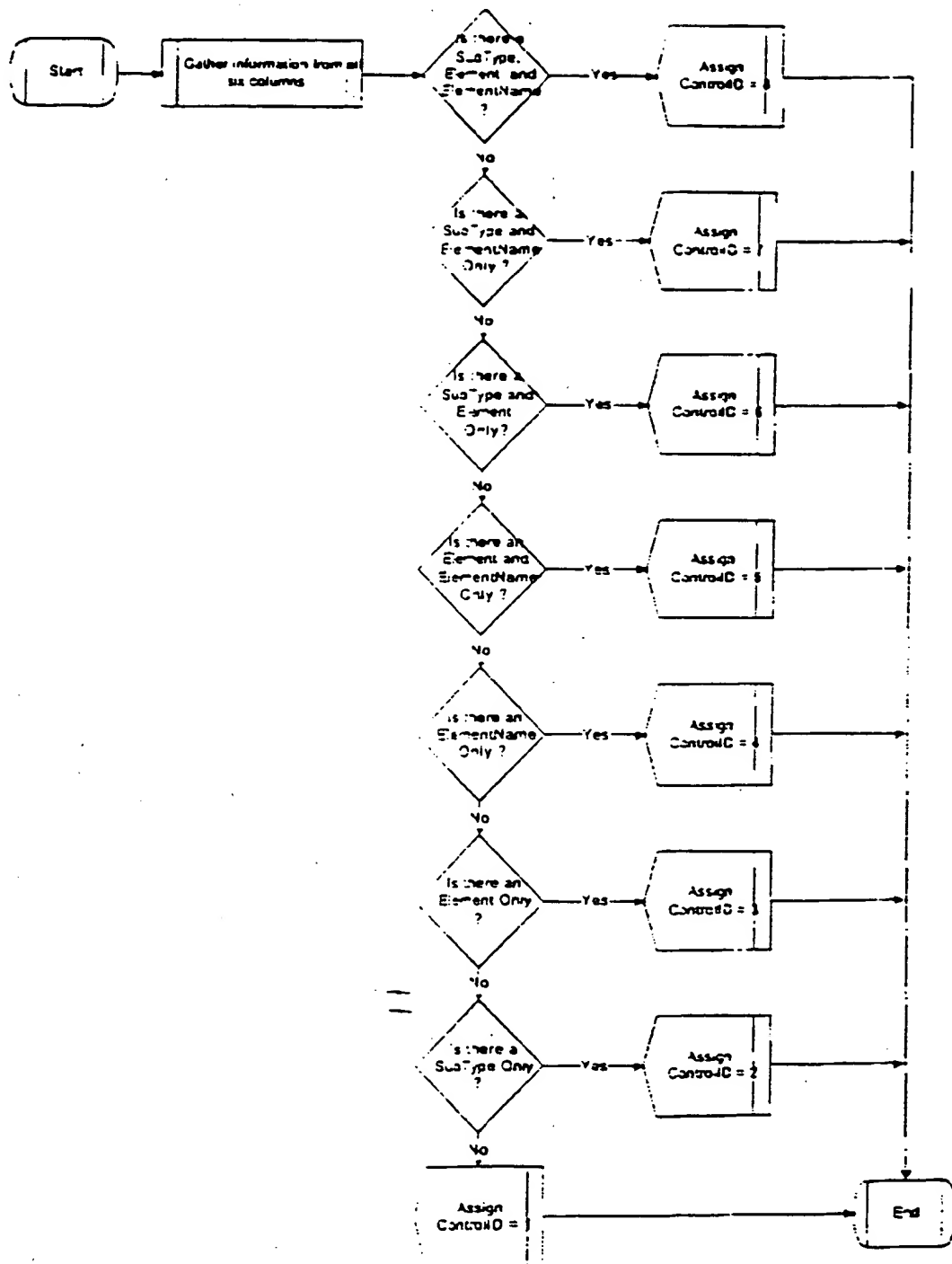


Fig. 11

The algorithm for the dynamic menu generation is expressed in the following flowchart:

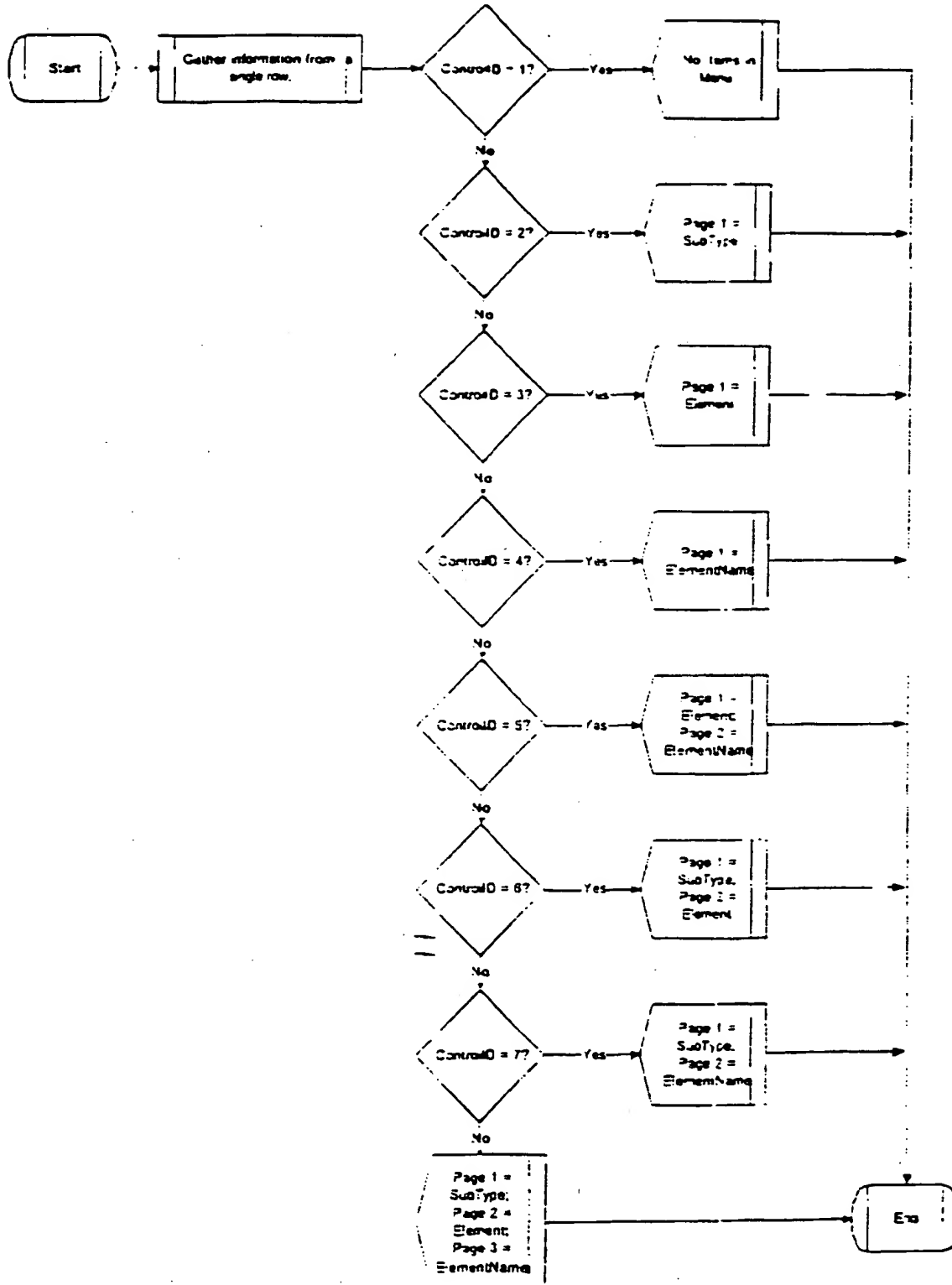


Fig. 12

Competitors

1. Traderonline.com
 - a) Aero Trader
 - b) Boat Trader
 - c) Heavy Equipment Trader
 - d) Auto Trader
 - e) Big Truck Trader
 - f) Pickup Truck Trader
2. ASO.com
3. Cars.com
4. Autoweb.com
5. Yahoo! Classifieds
6. Chicago Tribune Online Classifieds
7. Trade-A-Plane.com
8. Autonation.com
9. Netscape classifieds

Comptrol 1000

Controlled
I D-Buddys
gap
All these
are missing

TaxonomyID	Categories	SubCategories	Types	Code	SubType	Element	ElementName	Control
698	1	2	25	Inte-Coms		PS Engineering		
699	1	2	25	Lorans	King			
700	1	2	25	Lorans	Narco			
701	1	2	25	Lorans	TKM			
702	1	2	25	Moving Maps Handheld	Garmin			
703	1	2	25	Moving Maps Handheld	Lowrance			
704	1	2	25	Moving Maps Handheld	Magellan			
705	1	2	25	Moving Maps Handheld	Morrow			
706	1	2	25	Moving Maps Panel-mounted	Collins			
707	1	2	25	Moving Maps Panel-mounted	King			
708	1	2	25	Moving Maps Panel-mounted	Morrow			
709	1	2	25	Nav-Com's (VHF)	Collins			
710	1	2	25	Nav-Com's (VHF)	King			
711	1	2	25	Nav-Com's (VHF)	Narco			
712	1	2	25	Omega Navigation Systems				
713	1	2	25	Radar Altimeters				
714	1	2	25	Sightmscopes	Bendix			
715	1	2	25	TCAS				
716	1	2	25	Transponders, Encoding	Collins			
717	1	2	25	Transponders, Encoding	King			
718	1	2	25	Transponders, Encoding	Narco			
719	1	2	25	Transponders, Encoding	Trimble			
720	1	2	25	VOR Indicators	Collins			
721	1	2	25	VOR Indicators	King			
722	1	2	25	VOR Indicators	Narco			
723	1	2	25	VOR Indicators	Trimble			
724	1	2	26	Flight Equipment, Rigging				
725	1	2	26	Ground Equipment				
726	1	2	26	Lighted Signs				
727	1	2	27	AP Mechanic				
728	1	2	27	Commercial Pilot				
729	1	2	27	FAA Test Questions				
730	1	2	27	Instructor				
731	1	2	27	Instrument Instructor				
732	1	2	27	Instrument Pilot				
733	1	2	27	Private Pilot				
734	1	2	28	Electronics				
735	1	2	28	Jet Engines				
736	1	2	28	Reciprocating Engines				
737	1	2	28	Round Engines				
738	1	2	29	Jet Commercial	Airbus			

Fig. 17

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